

Specification : JUNGE Serum for Anti-wrinkle (Manose PR-0026)

(Application : For anti-wrinkle)

1. Name : JUNGE Serum
2. Active Compositions : Mixed Thai medicinal plant extracts including Myrobalan Wood (*Terminalia chebula* Retz.) gall and Tomato (*Lycopersicon esculentum* Mill.) fruit entrapped in nanoparticles
3. FDA Registration No. : In the process of cosmetic product notification with Thai FDA
4. Characteristics
  - Physical appearance : Brownish-red viscous liquid
  - pH : 5.87
  - Odor : Light specific herbal odor
5. Standardization : HPLC fingerprint using gallic acid as a marker
6. Biological activities :
  - Collagenase inhibition activity with the IC<sub>50</sub> of 5.53±1.17 mg/ml which is 0.004 time of vitamin C (IC<sub>50</sub> value = 0.022±0.001 mg/ml)
  - Hyaluronidase inhibition activity with the IC<sub>50</sub> of 35.72±5.79 mg/ml which is 0.004 time of disodium cromoglycate; DSCG (IC<sub>50</sub> value = 0.15±0.08 mg/ml)
  - Antioxidant activity by DPPH radical scavenging with the SC<sub>50</sub> value of 9.68±0.23 mg/ml which is 0.002 time of vitamin C (SC<sub>50</sub> value of 0.02±0.00 mg/ml)
  - Melanin inhibition activity in melanoma (B16F10) of 61.57±0.57% which is 0.90 time of kojic acid (68.22±2.63%)
  - Tyrosinase inhibition activity in melanoma (B16F10) of 58.18±2.85% which is 0.66 time of kojic acid (87.90±8.35%)

- *In vitro* tyrosinase inhibition activity with the IC<sub>50</sub> value of 0.79±0.20 mg/ml which is 0.051 time of kojic acid (IC<sub>50</sub> value = 0.04±0.00 mg/ml)
- 7. Clinical Performance : -
- 8. Microbial Contamination : No pathogenic microorganism contamination. The amounts of the aerobic bacteria, yeast and fungi are less than 1,000 cfu/g which is in the acceptable range of Thai FDA, Ministry of Public Health
- 9. Safety Evaluation : - No cytotoxicity on human skin fibroblasts at 1 mg/ml with the cell viability of 95.03±3.64%  
- No skin irritation in human volunteers by the 4h closed patch test
- 10. Stability : Physically stable by the heating-cooling process (45 and 4 °C) of 6 cycles
- 11. Shelf life at 30 °C : 2 – 5 years
- 12. Indication and use : Apply and rub gently daily on the face, neck and jawline after cleansing
- 13. Packaging and Storage : 25-50 grams in a bottle or tube / keep in dry and cool place protected from light
- 14. Precaution : Rinse off and stop using when there is any undesirable effect
- 15. Cost : Please request

Reference :

Manose In-house Project “Development of anti-aging serum containing *Terminalia chebula* Retz. Gall and *Lycopersicon esculentum* extracts entrapped in nanoparticles” Manose Health and Beauty Research Center (www.manose.co), unpublished, 2022.